

TSAREGORODTSEV, M.N.

Linear network for transmitting pulses of either sign. Nek.  
vop.eksp.fiz. no.2:16-20 '59. (MIRA 13:2)  
(Electronic circuits)

06359  
SOV/142-2-4-12/26

9 (2)

AUTHORS: Tsaregorodtsev, M.N., Gaydayev, G.I.

TITLE: A Pulse Train Generator

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika,  
1959, Vol 2, Nr 4, pp 477-480 (USSR)

ABSTRACT: A simple pulse train generator for periodic and single-operation is described. This device is required for tuning and checking different types of pulse equipment. A block diagram of the generator is shown in Fig 1. The circuit diagram is shown in Fig 3. The relaxation oscillator is composed of a MTK-90 cold thyratron and actuates the kipp oscillator with a 6N1P tube. The impact excitation oscillator consists of a 6Zh3P tube and a tapped-coil oscillator. The peaking circuit is composed of a 6P14F tube with an inductive load in the anode circuit shunted by a D2D diode. A negative pulse train is fed to the cathode follower with a 6N3P tube. A diode prevents positive bursts. The inverter, consisting of one half of a 6N3P tube, inverts the negative

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pulses. Another kipp oscillator, consisting of a 6N3P, is actuated by a negative pulse at the start of the "train" and creates at the anode of the right triode a negative blocking pulse of 40 to 100 microseconds duration. The passing circuit is composed of a 6Zh2P tube. The sawtooth voltage shaping circuit is built as a slave sweep oscillator with a 6N15P tube and a 6Zh3P discharge tube. The amplitude modulator consists of one half of a 6N1P tube working in a cathode follower circuit. The pulse limiter consists of a semiconductor diode. The 6N15P diode is used for fixing the zero level. A 6N1P tube is used as a output cathode follower. A total of 15 tubes are used. The power supply unit provides two stabilized voltages: +255 volts and -150 volts. It is connected to the 127/220 a.c. mains. About 140 voltamperes are required from the a.c. network. The generator will produce the following types of pulses: 1) Linearly amplitude-modulated positive pulse trains, whose length can be adjusted from 1 to

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460 pulses; the amplitudes may change from some tenths of one volt to 60 volts; the duration of a train may be varied from 1.5 to 690 microseconds; the pulses are of exponential shape; the rise time is 0.4 + 0.5 microseconds, the slope 0.5 + 0.6 microseconds. 2) Positive and negative pulse trains of equal amplitude; their length can be adjusted from 6 to 460 pulses; the duration of negative pulses is 0.6 microseconds, the duration of positive pulses is 0.8 microseconds; the amplitudes of positive pulses are adjustable from 10 to 35 volts, those of negative pulses from 8 to 20 volts; the duration of one train may be varied from 30 to 690 microseconds; the pulses are of exponential shape. 3) Negative initial pulses (8 volts, 2 microseconds) and stop pulses (10 volts, 5 microseconds). The generator will work periodical with a frequency of 70 pulse trains per second, or in single operation. The interval between two neighboring pulses within a pulse train may be adjusted from 1.5 to 5 microseconds. Within eight hours of operation, there were no deviations observed of this setting. The generator was used for tu-

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ning different types of scalers, pulse-shaping circuits, etc. The authors acknowledge the assistance of K.E. Erglis and express their gratitude to Yu.F. Pevchev for participating in the manufacture of the device described. The publication of this article was recommended by the Department of Experimental Methods of Nuclear Physics of the Moskovskiy inzhenerno-fizicheskiy institut (Moscow Physics Engineering Institute). There are 1 block diagram, 1 set of pulse diagrams, 1 circuit diagram and 2 Soviet references.

SUBMITTED: December 11, 1958 (October 24, 1958)

Card 4/4

S/120/60/000/01/014/051

E192/E382

AUTHOR: Tsaregorodtsev, M.N.

TITLE: A Device for Producing a Staircase Voltage Waveform

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 1,  
pp 59 - 62 (USSR)

ABSTRACT: The device described generates a staircase voltage waveform by adding currents in a common resistor which is connected to the anodes of a number of switching tubes. A set of bistable trigger circuits control the grids of the switching tubes. The delays in the actuation of the switching tubes caused by the successive operation of the trigger circuits are compensated by means of delay lines. The block schematic of the device is shown in Figure 1 and its detailed circuit diagram is given in Figure 3. The output voltage consists of 63 steps, the magnitude of each step being 3.5 V. The rise time of a step is 0.3  $\mu$ s and the decay time of the waveform from 220 V to zero is 0.5  $\mu$ s. The operating data relating to the trigger circuits, switching tubes and delay lines are given in Tables 1, 2 and 3. The device is employed in a multichannel

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S/120/60/000/01/014/051

E192/E382

A Device for Producing a Staircase Voltage Waveform

analyser whose operating cycle consists of two time-separated processes:

- 1) the process of rapid storing of the measured amplitudes on the target of a cathode-ray storing tube and
  - 2) the process of adding the stored information and distributing it between various channels.
- The device is used to deflect the ray from one line of the target to another. The waveforms of the staircase voltage generated by the device are shown in the oscillograms of Figures 4 and 5. There are 5 figures, 4 tables and 2 Soviet references.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut  
(Moscow Engineering-physics Institute)



SUBMITTED: November 18, 1958

Card 2/2

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0

TSAREGORODTSEV, P.P.; IZOTOV, N.P.; TISHKOV, Yu.Ya.

Reduction of idle periods in the maintenance of hearths. Metallurg  
9 no.11:15 N '64. (MIRA 18:2)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0"

TSAR'GORODTSEV, M.Y.

High-speed multichannel analyzer with pulse amplitude memory using  
an electron beam storage tube. Avtom. i telem. obor. st.  
no.1:72-90 160. (TM 14-11)

1. Kafedra avtomatiki i telemekhaniki Moskovskogo inzhenerno-fizika-  
cheskogo instituta.

(Nuclear physics)  
(Counting devices)  
(Spectrum analysis)

TSAREGORD TSV, P. IV

## PHASE I BOOK EXPLOITATION

SOV/5489

Moscow. Inzhenerno-fizicheskiy Institut.  
 Avtomatika i telemekhanika: sbornik statey (Automation and Remote  
 Control. Collection of Articles) no. 1. Moscow, Atomizdat, 1970.  
 98 p. 8,000 copies printed.

Sponsoring Agencies: Ministerstvo vysashogo i strednego spetsial'nogo  
 obrazovaniya RSFSR and Moskovskiy inzhenerno-fizicheskiy institut.

Rep. Ed.: B.M. Stepanov. Doctor of Physical and Mathematical Sci-  
 ences, Professor; Ed.: A.F. Alyabyev; Tech. Ed.: S.M. Popova.

PURPOSE: This collection of articles is intended for scientific and  
 technical personnel working in the fields of automation and tele-  
 mechanics, experimental physics, and other applied sciences. It  
 may be helpful to students in advanced courses in these fields at  
 schools of higher education.

COVERAGE: The articles were written by staff members of the  
 Katedra avtomatiki i telemekhaniki Kosmokosmicheskogo inzhenerno-  
 fizicheskogo instituta (Automation and Telemechanics Department  
 of the Moscow Engineering Physics Institute). The following  
 topics are discussed: basic problems in the designing and oper-  
 ation of automatic starting systems of nuclear reactors; a  
 method for taking locations of currents over a broader range  
 than conventional methods, based on utilizing the voltampere  
 characteristic of vacuum tube diodes; an analysis of  
 the time characteristics of logarithmic devices; the possibility  
 of obtaining relaxation operating conditions in circuits contain-  
 ing nonlinear capacitors; a study of the circuit of a  
 passive four-terminal RC network; the description of a multi-  
 channel pulse-amplitude analyzer and the possibility of util-  
 izing a two-phase induction machine with squirrel-cage rotor  
 under tachometer-generator conditions. No personalities are  
 mentioned. References accompany most of the articles.

Arkhangel'skiy, I.A., A.S. Yeremin, and F.N. Stepanov. 44  
 Taking the Logarithms of Heavy Currents  
 Volkov, N.P., and P.I. Popov. Analysis of the Time Char-  
 acteristic of Logarithmic Devices 45

Pluzhnikov, V.N. Experimental Investigation of Some Dielec-  
 tric Relaxation-Oscillator Circuits 56  
 Kuvshinnikov, B.A. Analysis of a Correcting Four-Terminal  
 Network Circuit 67  
 Tsaregorodtsev, M.N. High-Speed Multichannel Analysis with  
 Pulse Repetition Spacing in a Cylindrical Storage Tube 72  
 Armenkly, Ye. V. Induction Tachometer-Generator with Squirrel-  
 Cage Rotor 91

AVAILABLE: Library of Congress

TSAREGORODTSIV, M.N.

Unit for shaping stepped voltage. Prib.i tekhn.eksp. no.1:59-62  
Ja-J '60. (MIRA 13:6)

1. Moskovskiy inzhenerno-fizicheskiy institut.  
(Voltage regulators)

TSAREGORODTSEV, P.P.; GARASIMOV, Ya.P., master; BORMASHENKO, R.I.;  
LOSKUTNIKOV, V.D., stalevar; KUZNETSOV, V.G., stalevar;  
SAFRONOV, V.F., stalevar; SUVOROV, K.R., stalevar

"Steelmaker's manual" by M.I. Panfilov. Reviewed by P.P.  
Tsaregorodtsev and others. Metallurg 7 no.5:39 My '62.  
(MIRA 15:5)

1. Petrovsk-Zabaykal'skiy metallurgicheskiy zavod.
2. Nachal'nik martenovskogo tsekha Petrovsk-Zabaykal'skogo  
metallurgicheskogo zavoda (for Tsaregorodtsev).  
(Open-hearth process--Handbooks, manuals, etc.)  
(Panfilov, M.I.)

TSAREGORODTSEV, T. I., red.; BIKOV, V. P., red.

[Methodological problems of present-day medicine] / T. I. Tsaregorodtsev  
dolegicheskie problemy sovremennoi meditsiny. Moscow,  
Meditina, 1965. 277 p.  
(MIRA 19 c)

1. Akademiya meditsinskikh nauk SSSR, Moscow.

TSAREGORODTSFV, V.E., ed.

Partiinaia rabota na transporte; iz opyta Moskovskogo uzla zheleznykh dorog.  
[Party work in the transportation system; work experience of the Moscow  
railroad junction]. Storink statei. [Moskva], Moskovskii rabochii, 1948. 62p.

DLC: HDE039. R12R97

SC: SOVIET TRANSPORTATION AND COMMUNICATIONS, A BIBLIOGRAPHY, Library of Congress  
reference Department, Washington, 1952, Unclassified.

AR &  
TSMAEVORODTSEV, V. E., ED.

Sbornik lektsii o peredovykh metodakh raboty na zheleznodorozhnom transporte.  
Lecture course in advanced working methods on railroads, Moskva, Gos. transp.  
zhel-dorizd-vo. 1948. 261 p. illu. (V pomoshch' partrabotniku zheleznodorozhnogo  
transporta).

A few postwar figures for the network and a good many examples and  
figures for roads or plants.

DLC: HE 3136.T8

SO: Soviet Transportation and Communications. A Bibliography Library of Congress  
Reference Department, Washington, 1952, Unclassified.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0

TSAREGORODTSEV, V. YE.

2/211 TSAREGORODTSEV, V. YE. Stalinskij, 4th ch. 1st rank letopis'. Cen. 5,  
1948, No. 31, S. 2-3.

SO: Letopis', No. 32, 1948.

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0

TSALIEGORODTSEV, V.Ye.

The USSR is a great railroad power. Koskva Pravda. 1951. 23 p. (91-27078)

DS MB

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1. Railroads - Russia

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0"

TSK EGEMENSKIY, V

YA

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5. Narvotii elektrorozhnnogo transporta SSSR v lige, kataloge [n.d.]  
Development of railroad transport in the USSR in the St. Petersburg  
series. Izd-vo knaniye, 1953.  
30 p. illus. (Vs-seyuznoye Obshchestvo po raspredeleniyu Politicheskikh i Nauch-  
nykh knaniy, Seriya IV No. 14.)

TSAREGORODTSEV, V.

[Yt.]

"Development of railroad transportation in the USSR in the fifth Five-Year Plan." p. 364. (PRZEGIAD TECHNICZNY. Vol 75, No. 10, Oct. 1954. Warszawa, Poland)

SO: Monthly List of East European Accessions. (EEAL). LC, Vol. 4, No. 4.  
April 1955. Uncl.

TSAREGORODTSEV, Viktor Yefremovich, inzhener; ISLANKINA, T.F., redaktor;  
DMITRIYEVA, N.V., tekhnicheskiv redaktor

[Advanced work methods in railroad transportation] Peredovye metody  
truda na zheleznodorozhnom transporte; kratkii obzor. Moskva, Izd-  
vo "Znanie," 1955. 31 p. (Vsesoiuznoe obshchestvo po resprostrane-  
niyu politicheskikh i nauchnykh znanii. Ser. 4, no. 15). (MLRA 8:7)  
(Railroads)

TSAREGORODTSEV, V.

Dissemination of advanced experience is an extremely important  
economic and political task. Zhel.dor.transp. 36 no.3:25-32  
(MIRA 12:5)  
Mr '55.

1. Zamestitel' nachal'nika Politupravleniya Ministerstva putey  
soobshcheniya. (Railroad engineering)

TSAREGORODTSEV, V. Y.

Reorganization of the administration of industry and the inventing.  
Izobr. v SSSR 2 no.7:3-5 J1 '57. (MLRA 10:7)

1. Zamestitel' Predsedatelya Komiteta po delam izobreteniy i  
otkrytiy pri Sovete Ministrov SSSR.  
(Industrial organization)

TSAREGORODTSEV, V.Ye.

Inventors and efficiency promoters are a powerful force in  
technical progress. Zhel. dor. transp. 41 no.10:3-7 O '59.  
(MIRA 13:2)

1.Zamestitel' predsedatelya Komiteta po delam izobretaniy i otkrytiy  
pri Sovete Ministrov SSSR.  
(Railroads) (Inventions, Employees')

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0

BRECHKO, A.A., inzh.; TSARI GORODTSEV, Yu.G., inzh.

Conveying the used sand from under the shakerout screening  
unit. Lit. proizv. no.11:42 N '65. (MIRA 18:12)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0

TSAREGORODTSEVA, A.

Under the Foreign yoke. Prof.-tekhn.obr. 18 no.12:30-31 D '61.  
(MIRA 14:12)  
(Iran--Vocational education)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0"

TSAREGORODTSEVA, T.M.

Pathogenesis of experimental allergic encephalomyelitis.  
(MIRA 17:10)  
Vest. AMN SSSR 19 no.3:78-84 '64.

1. Nauchno-issledovatel'skaya allergologicheskaya laboratoriya  
AMN SSSR, Moskva.

TYCHINKINA, A.K., kandidat meditsinskikh nauk; TSAREGRADSKAYA, G.A.  
(Gor'kiy)

The feldsher's work in accident prevention at the health stations  
of a lumbering enterprise. Fel'd. i akush. 21 no.5:18-22 My '56.  
(LUMBERING--ACCIDENTS) (MLRA 9:8)

TSAREGRADSKAYA, I.V.

Effect of the concentration of brewing wort on the quality  
of baking yeasts. Izv.vys.ucheb.zav.; pishch.tekh. no.3:  
86-90 '59. (MIRA 12:12)

1. Leningradskiy tekhnologicheskiy institut pishchevoy promy-  
shlennosti. Kafedra mikrobiologii i biokhimii.  
(Yeast)

TSAREGRADSAKYA, I.V.

Effect of the concentration of the culture medium on the quality of yeasts. Izv.vys.ucheb.zav.; pishch.tekh. no.1:60-63 '60.  
(MIRA 13:6)

1. Kafedra mikrobiologii i biokhimii Lenigradskogo tekhnologicheskogo instituta pishchevoy promyshlennosti.  
(Yeast)

TSAREGRADSKAYA, I.V.

Continuous growing of bakers' yeast. Izv. vys. ucheb. zav.;  
pishch. tekhn. no.2:64-68 '63. (MIRA 16:5)

1. Leningradskiy mezhotraslavoy nauchno-issledovatel'skiy institut  
pishchevoy promyshlennosti, mikrobiologicheskaya laboratoriya.  
(Yeast)

TSAREGRADSKAYA, N.A., kand.veterin.nauk

Toxic dystrophy of the liver in piglets. Veterinariia 40 no.9:55-58  
S '63. (MIRA 17:1)

1. Nauchno-proizvodstvennaya veterinarnaya laboratoriya Ministerstva  
proizvodstva i zagotovok sel'skokhozyaystvennykh produktov RSFSR.

TSAREGRADSKAYA ACADEMY OF AGRICULTURE, 1956

J

Country : USSR  
Category: Soil Science. Soil Biology.

Abs Jour: RZhBiol., N. 14, 1959, No 63058

Author : Tsaregradskaya, N.I.  
Inst : Penzenskiy Agricultural Institute  
Title : The Effect of Soil Cultivation Methods on the  
Number of Nitrogen Fixers

Orig Pub: Sb. tr Penzenskiy s.-kh. in-ta, 1956, vyp. 1,  
165-171

Abstract: No abstract

Card : 1/1

SERGEYEVA, T.Ya.; TSAREGRADSKAYA, N.A.; POPOV, V.I.; ANTONOVA, M.Ye.;  
PAVLOVICH, L.A.; SAKHAROVA, R.M.

Infectious nature of atrophic rhinitis in young pigs. Vete-  
rinariia 37 no.4:38-44 Ap'60. (MIRA 16:6)

1. Nauchno-proizvodstvennaya laboratoriya po bor'be s bo-  
leznyami molodnyaka sel'skokhosyaystvennykh zhivotnykh  
Ministerstva sel'skogo khozyaystva RSFSR.  
(SWINE—DISEASES AND PESTS)

TSAREGRADSKAYA, N.A., kandidat veterinarnykh nauk.

Effect of a shock on experimental malignant anthrax. Veterinariia  
33 no.5:50 My '56. (MLRA 9:8)  
(Anthrax--Preventive inoculation)  
(Shock)

KAZAKOV, I.V., inzh.; BUYANOV, Yu.P., inzh.; ROMANOV, A.A., inzh.;  
TSAREGRADSKIY, A.V., inzh.; YAKUSHEV, A.P., inzh.; ZHUKOV,  
K.V., kand. arkh.; GOLOVIN, V.V., inzh.; LOS', A.A., inzh.;  
CHERKINSKAYA, R.L., red. izd-va; SHERSTNEVA, N.V., tekhn.  
red.

[Catalog of asbestos-cement products and elements for  
residential buildings] Katalog asbestotsementnykh izdelii i  
konstruktsii dlja zhilykh domov. Moskva, Gosstroizdat,  
(MIRA 16:6)  
1963. 34 p.

1. Akademiya stroitel'stva i arkitektury SSSR. TSentral'nyy  
nauchno-issledovatel'skiy i proyektno-eksperimental'nyy in-  
stitut industrial'nykh zhilykh i massovykh kul'turno-bytovykh  
zdaniy. 2. TSentral'nyy nauchno-issledovatel'skiy i proyektno-  
eksperimental'nyy institut industrial'nykh zhilykh i massovykh  
kul'turno-bytovykh zdaniy (for Kazakov, Buyanov, Romanov,  
TSaregradskiy, Yakushev, Zhukov). 3. Gosudarstvennyy trest po  
proyektirovaniyu zhilykh i obshchestvennykh zdaniy, ikh obo-  
rudovaniya i blagoustroystva naselennykh mest (for Golovin,  
Los').  
(Asbestos cement)  
(Apartment houses--Design and construction)

TSAREGRADSKIY, I.

USSR/Education Statistics Trade Unions	5702.	Oct 1947
	5405.	
"Investment of Trade Unions in Achieving the Victory of the Cultural Revolution," I. Tsaregradskiy, 6 pp		
"Prof Soyuz" No 10		

Cursory survey of cultural work of trade unions. 90% of Russians are literate and 99.7% of workers are literate. 8,889 newspapers printed in 70 languages of Soviet nationalities before World War II. 729 theaters in operation today. 240,000 libraries in 1940 with 300 million books. Over 95,000 various kinds of clubs. 30% of libraries, many of which are located in factories, established by trade unions.

16	USSR/Education Statistics	5702.	(Contd)	Oct 1947
				12G78
Types of literature given in percentages. Trade unions presented 171,040 plays in 1945 and 268,768 in 1946.				

12G78

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52-II1-1-5/9

AUTHOR: Tsaregradskiy, I. P.

TITLE: The Capacity of a Stationary Channel with Finite Impression. (Zamechaniye o propusknoy sposobnosti statsionarnogo kanala s konechnoy pamyat'yu.)

PERIODICAL: Teoriya veroyatnostey i yeye primeneniya, 1958,  
Vol.III, Nr.1, pp.84-96. (USSR)

ABSTRACT: For the case of discrete information K.inchin (Ref.1) has given a strict mathematical proof of Shannon's theorems (Ref.2), with the assumption of a stationary working for the communication system; but the problem of the possibility of asserting the converses of these theorems remains obscure. The object of the present note is to demonstrate the validity of the converses of Shannon's theorems, and this is achieved by establishing the exact relation between the ergodic capacity  $C_e$  of a stationary channel and the stationary capacity  $C_s$  of the channel. It is assumed that there is no anticipation in the channel. The following theorem is proved. The ergodic capacity  $C_e$  of a stationary channel without anticipation and with finite impression  $m$  is not less than the stationary capacity  $C_s$  of the channel. Since it is already known that

Card  
1/2

52-JIT-1-5/9

The Capacity of a Stationary Channel with Finite Impression.

$C_e \leq C_s$  it follows that  $C_e = C_s$ . Hence the converse assertions of Shannon's theorems can easily be obtained by the method proposed by Shannon. There are 7 references of which 4 are Soviet and 3 English.

SUBMITTED: October 10, 1957.

AVAILABLE: Library of Congress.

1. Shannon's theorems
2. Communication systems-Mathematical analysis

Card 2/2

SOV/52-3-4-10/11

AUTHOR: Tsaregradskiy, I.P. (Moscow)TITLE: On a Uniform Approximation for a Binomial Distribution  
by Infinitely Divisible Laws (O ravnomernom priblizhenii  
binomial'nogo raspredeleniya neogranichenno delimymi  
zakonami)PERIODICAL: Teoriya Veroyatnostey i Yeye Primeneniya, 1958,  
Vol 3, Nr 4, pp 470 - 474 (USSR)

ABSTRACT: Consider the sequence:

$$\xi_1, \xi_2, \xi_3, \dots, \xi_n, \dots \quad (1)$$

of mutually independent random quantities each having the  
same distribution law  $F(x)$  and suppose:

$$s_n = \xi_1 + \xi_2 + \dots + \xi_n \quad (2)$$

and

$$F^n(x) = P\{s_n < x\} \quad (3).$$

Let  $\mathcal{Q}$  denote the set of all infinitely divisible laws.  
The distance between any two distribution functions is

Card1/3

SOV/52-3-4-10/11

On a Uniform Approximation for a Binomial Distribution of Infinitely  
Divisible Laws

defined in:

$$\rho(H, G) = \sup_{-\infty < x < \infty} |H(x) - G(x)|$$

and that between  $F^n_p$  and  $G$  in:

$$\psi(n; F) = \inf_{G \in \mathcal{B}} \rho(F^n_p, G) \quad (4)$$

The distribution law for the sum  $s_n$  is given in:

$$F_p^n(x) = \sum_{0 \leq m \leq x} C_n^m p^m (1-p)^{n-m} \quad (6)$$

The principal result of the note is that the distance  
between  $F_p^n$  and  $G$  satisfies the inequality:

Card2/3

SOV/52-3-4-10/11

On a Uniform Approximation for a Binomial Distribution of Infinitely Divisible Laws

$$\sup_{0 \leq p \leq 1} \rho(F_p^n, \Theta) < \frac{C_0}{\sqrt{n}}$$

where  $C_0$  is an absolute constant.

There are 2 Soviet references.

SUBMITTED: July 6, 1958

Card 3/3

AUTHOR: Tsaregradskiy, I.P. SOV/42-13-6-3/33

TITLE: A Remark on the Permeability of a Stationary Channel With  
a Finite Memory (Zamechaniye o propusknoy sposobnosti  
statsionarnogo kanala s konechnoy pamyat'yu)

PERIODICAL: Uspekhi matematicheskikh nauk, 1958, Vol 13, Nr 6, pp 49-61 (USSR)

ABSTRACT: The present paper completes the publication of Khinchin  
"On the fundamental theorems of the theory of information"  
[Ref 1]. In [Ref 1] Khinchin gives a rigorous mathematical  
proof of the theorems of Shannon [Ref 2], but the possibility  
of a reversion of these theorems is not discussed. The  
author closes this gap by investigating the relations between  
the ergodic permeability  $C_e$  of [Ref 1] and the stationary  
permeability  $C_s$ , and proving the reversion theorems. The  
author thanks Khinchin for giving the problem and Kolmogorov  
for the scientific assistance.  
There are 7 references, 3 of which are Soviet, 3 American,  
and 1 English.

SUBMITTED: May 17, 1957

Card 1/1

TSAREGRADSKIY, I. P.: Master Phys-Math Sci (diss) -- "The approximation of the distributions of sums of independent random values by inorwanically-divisible laws". Moscow, 1959. 7 pp (Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Mech-Math Faculty), 150 copies (KL, No 1<sup>st</sup>, 1959, 113)

PHASE I BOOK EXPLOITATION SOV/4981

Soveshchaniye po teorii veroyatnostey i matematicheskoy statistike, Yerevan, 1958

Trudy Vsesoyuznogo soveshchaniya po teorii veroyatnostey i matematicheskoy statistike, Yerevan, 19-25 sentyabrya 1958 g. (All-Union Conference on the Theory of Probability and Mathematical Statistics. Held in Yerevan 19-25 September, 1958. Transactions) Yerevan, Izd-vo AN ASSR, 1960. 291 p. Errata slip inserted. 2,500 copies printed.

Sponsoring Agency: Akademiya nauk Armyanskoy SSR.

Editorial Staff: G.A. Ambartsumyan, B.V. Gnedenko, Ye.B. Dynkin, Yu.V. Linnik and S. Kh. Tumanyan; Ed. of Publishing House: A.G. Slikuni; Tech. Ed.: M.A. Kaplanyan.

PURPOSE: The book is intended for mathematicians.

COVERAGE: The book contains 41 articles submitted to the Conference and dealing with the theory of probability and mathematical statistics. Some of the articles are the papers read at the Conference and edited for publication, while others outline the theses of papers which appeared or are scheduled to appear, wholly or in

-Card 1/8-

All-Union Conference on the Theory (Cont.)

SOV/4981

part, in other publications; in some cases, such publications are quoted. A list of the papers whose contents were published elsewhere is included and the places of publication are indicated. Individual articles examine theories of mass service, spectral instruments, numbers, games, and certain functions, and discuss the theorems of Shannon, Markov's chains, and certain processes, quantities, and functions. Such items as the method of least squares, the stochastic, Markov's and diffusion processes, measures and their applications, a scheme of Bernoulli experiments, Markov-type random fields, visible distribution of stars, Brownian motion, capacity of radio channels, and defective products are considered. No personalities are mentioned. References accompany some of the articles.

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Gnedenko, B.V. On Some Problems in the Theory of Mass Service	15

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All-Union Conference on the Theory (Cont.)	SOV/4981
Linnik, Yu.V. Review of Certain New Applications of the Theory of Functions of a Complex Variable in the Theory of Probability. (Theses)	25
Tsaregradskiy, I.P. Approximation of Distributions of Sums of Finite- Value Summands by Indefinitely Divisible Laws	26
Studnev, Yu.P. On a Property of Accompanying Laws. (Theses)	33
Kloss, B.M. Limit Theorems for Random Quantities on Compact Abelian Groups. (Theses)	35
Petrov, V.V. On a Central Limit Theorem for m-Dependent Quantities	38
Statulyavichus, V.A. Limit Theorems for Heterogeneous Markov's Chains (Theses)	
Vorob'yev, N.N. Modern State of the Theory of Games and Cooperative Games. (Theses)	48
Korableva, L.A., and V.N. Komleva. Some Problems in the Theory of Position Games. (Theses)	51
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"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0

BERTOVA, Ye.I. (Leningrad); KUZNETSOV, Yu.T. (Leningrad); NATANSON, I.P. (Leningrad)  
TSAREGRADSKIY, Kh.A. (Leningrad).

Approximate calculation of definite integrals, by means of the multiplicative  
method of isolated singularities. Prikl.mat.i mekh. 17 no.5:639-644 S-0 '53.  
(MLRA 6:9)  
( Integrals, Definite )

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0"

TSAREGARADSKY, H. A.

Vol. 4

Mathematical Review  
June 1954  
Numerical and Graphical  
Methods

Bertova, E. I., Kuznecov, Ya. T., Natanson, I. P., and Caregradskii, H. A. On approximate computation of definite integrals by means of a multiplicative method of excluding singularities. Akad. Nauk SSSR. Prikl. Mat. Meh. 17, 639-644 (1953). (Russian)

This paper extends Gauss's method of numerical integration to the case of functions having certain types of singularities in the interval of integration. The method developed here applies to the case where the integrand can be written as a product of the form  $|x|^\alpha f(x)$  in which  $f(x)$  is continuous and  $\alpha$  lies in the interval  $-1 < \alpha < 0$ . As is well known, one may approximate the integral by a sum of the form  $\sum_{i=1}^n A_i f(x_i)$  in which the  $A_i$ 's are constants and the  $x_i$ 's are zeros of a polynomial  $w_n(x)$  of degree  $n$ , where the set of polynomials  $w_0(x), w_1(x), \dots, w_n(x)$  are orthogonal with weight function  $|x|^\alpha$  for the given interval of integration. Such polynomials can be constructed by a three-term recurrence relation. The author obtains the orthogonal polynomials through the eighth degree and tabulates values of the  $A_i$ 's and  $x_i$ 's for  $\alpha = -\frac{1}{2}, -\frac{3}{8}, -\frac{5}{8}, -\frac{7}{8}$  and  $-\frac{9}{8}$ .

W. E. Milne (Corvallis, Ore.).

REF ID: A65205  
AFC: FSB: INTELLIGENCE

1980-1981. V. I. Tsaregradskiy, L. N. Perfil'yev, S. I. Ben'kovich, S.

REMARKS

CITED SOURCE: Byul. nauchno-tekhn. inform. Gos. geol. kom-t SSSR, Otd. nauchno-  
tekhn. inform. VGB MSN

Card 1/2

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0

L 63771-55

ACCESSION NR: AR5018980

... against widespread application. A. Kunina.

SUB CODE: DP, ES

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0"

KOLOTUKHIN, I.N.; KUZNETSOV, V.G.; KAZARNOVSKIY, S.N.; TSAREGRADSKIY,  
V.A.; PINCHUK, G.A., redaktor; VERINA, O.P., tekhnicheskij redak-  
tor

[Technology of lubricating and protective materials] Tekhnologija  
smazochnykh i zashchitnykh materialov. Moskva, Gos. transportnoe  
zhel-dor. izd-vo, 1952. 235 p. [Microfilm]. (MIRA 8:7)  
(Lubrication and lubricants) (Corrosion and anticorrosives)  
(Finishes and finishing)

TSAREGRADSKIY, V. A.

KOKOSHINSKIY, I.G.; TSAREGRADSKIY, V.A.; GREKOV, K.A.

Controlling sticking of piston rings in the D50 engine. Trudy  
TSWII MPS no 87:133-161 '54.  
(MLRA 8:3)  
(Diesel locomotives)

TSAREGRADSKIY, V.A.

3618. TSAREGRADSKIY, V.A. Bor'bu S. Prigoraniyem Porchnyevykh Kolyesh  
Dvigatyelyey Tyethovozov Tel I Te 2 M., Transzhyeldorizdat, 1954. 12s. S  
Chyert. 21sm (Vsyesoyuz Nauchissled. In-t zh-D Transporta. Inform. Pis'mo.  
No. 317) 1,000ekz. Byespl.-Na Obl Avt. Nye Ukarany-(54-14151zh) 621.431.  
72-242+ 621.887

SO: Knizhnaya Letopis', Vol. 3, 1955

TSAREGRADSKY, V.A., kandidat tekhnicheskikh nauk; NARSKIKH, I.I., kandidat tekhnicheskikh nauk; STRUSEVICH, M.A., kandidat tekhnicheskikh nauk; SHADIKYAN, V.S., kandidat tekhnicheskikh nauk.

On the life of diesel oil in D50 engines of the TE diesel locomotives.  
Vest.TSNII MPS 15 no.2:28-30 S '56.  
(MLRA 9:12)  
(Diesel fuels--Testing)

RYLEYEV, G.S., inzhener; TSAREGRADSKIY, V.A.

Regulate the norms for fuel oil consumption. Elek. i tepl.  
tiaga no.2:19-21 F '57. (MLRA 10:5)  
(Diesel locomotives)

TSAREGRADSKIX, V.A. kandidat tekhnicheskikh nauk; VASIL'YEVA, V.V.,  
Inzhener.

Evaluation of the corrosion aggressiveness of diesel oils.  
Vest.TSNII MPS no.2:39-41 Mr '57. (MLRA 10:4)  
(Diesel fuels)

*TSAREGRADSKY*  
VASIL'YEV, V.V., inzh.; NARSKIYE, I.I., kand. tekhn. nauk; TSAREGRADSKY  
V.A., kand. tekhn. nauk.

Evaluating filterability of diesel locomotive oil additives. Vest.  
TSNII MPS 17 no.2:24-26 Mr '58. (MIRA 11:4)  
(Diesel locomotives--Lubrication)

*TRANSLATOR, v. i.*

PHASE I BOOK EXPLOITATION

SOV/4775

Kolotukhin, Ivan Nikiforovich, Vasiliy Georgiyevich Kuznetsov,  
Semen Naumovich Kazarnovskiy, and Vladimir Alekseyevich  
Tsaregradskiy

Tekhnologiya smazochnykh i zashchitnykh materialov (Technology of Lubricants and Protective Materials) 2nd ed., rev. and enl. Moscow, Transzheldorizdat, 1960. 146 p. 6,000 copies printed.

Ed.: G. A. Pinchuk, Candidate of Technical Sciences; Tech. Ed.: Ye. N. Bobrova.

PURPOSE: This textbook is intended for use in railroad-transportation tekhnikums and may also be used by workers occupied in painting and lubricating rolling stock.

COVERAGE: The authors discuss processes involved in the production of lubricating and protective materials for rolling stock. Attention is given to questions of the economic utilization of these materials in train maintenance. The second edition has

*Card 1/7*

## Technology of Lubricants (Cont.)

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undergone considerable revision and is supplemented with material on synthetic paints, various additives for improving lubricating materials, new varnishes and paints, and methods of applying these varnishes and paints. No personalities are mentioned. There are 46 references, all Soviet.

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Ch. I. Friction. Basic Properties of Lubricating Materials	
1. The understanding of friction	7
2. Types of friction	8
3. Basic properties of lubricating materials and the hydrodynamic theory of lubrication	11
4. Elementary formulas for computation of the lubrication film of bearings	14

~~Card 2/7~~

KOLOTUKHIN, Ivan Nikiforovich; KUZNETSOV, Vasiliy Georgiyevich;  
KAZARNOVSKIY, Semen Neumovich; TSAREGRADSKIY, Vladimir Alekseyevich;  
PINCHUK, G.A., kand.tekhn.nauk, red.: BOBROVA, Ye.N., tekhn.red.

[Technology of lubricants and protective coatings] Tekhnologiya  
smazochnykh i zashchitnykh materialov. Izd.2., perer. i dop.  
Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshche-  
niia, 1960. 146 p.  
(Lubrication and lubricants) (Protective coatings)  
(MIRA 13:9)

ZELENETSKAYA, I.S.; TSAREGRADSKIY, V.A.

Blending diesel oils of different origin, and the technology  
of their preparation. Khim.i tekhn.topl.i masel 5 no.4:  
43-45 Ap '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnoego transporta.  
(Diesel fuels)

ABDULLAYEV, Kh.M.; ALYAVDIN, V.F.; AMIRASLANOV, A.A.; ANIKEYEV, N.P.;  
ARAPOV, Yu.A.; BARSANOV, G.P.; BELYAYEVSKIY, N.A.; BOKIY, G.P.;  
BORODAYEVSKAYA, M.B.; GOVOROV, I.N.; GODLEVSKIY, M.N.; SHCHEGLOV, A.D.;  
SHAKHOV, F.N.; SHILO, N.A.; YARMOLYUK, V.A.; DRABKIN, I.Ye.;  
YEROFEYEV, B.N.; YERSHOV, A.D.; IVANKIN, P.F.; ITSIKSON, M.I.;  
KARPOVA, Ye.D.; KASHIN, S.A.; KASHKAY, M.A.; KORZHINSKIY, D.S.;  
KOSOV, B.M.; KOTLYAR, V.N.; KREYTER, V.M.; KUZNETSOV, V.A.; LUGOV,  
S.F.; MAGAK'YAN, I.G.; MATERIKOV, M.P.; ODNITSOV, M.M.; PAVLOV, Ye.S.;  
SATPAYEV, K.I.; SMIRNOV, V.I.; SOBOLEV, V.S.; SOKOLOV, G.A.; STRAKHOV,  
N.M.; TATARINOV, I.M.; KHRUSHCHOV, N.A.; TSAREGRADSKIY, V.A.;  
CHUKHROV, F.V.

In memory of Oleg Dmitrievich Levitskii; obituary. Sov.geol. 4  
no.5:156-158 My '61. (MIRA 14:6)  
(Levitskii, Oleg Dmitrievich, 1909-1961)

TSAREGRADSKIY, V.A.

Experimental metallometric surveying in Kazakhstan. Sov.geol. 4  
no.6:102-117 Je '61. (MIRA 14:6)

1. Kazakhskiy geofizicheskiy trest Ministerstva geologii i okhrany  
nedr Kazakhskoy SSR.  
(Kazakhstan--Geology, Economy)

VASIL'YEV, V.V.; VRONSKIY, B.I.; YEROFEEV, B.N.; KECHEK, G.A.; KOSOV, B.M.;  
TUPITSYN, N.V.; TSAREGRADSKIY, V.A.; SHATALOV, Ye.T.

Sergei Dmitrivich Rakovskii, obituary. Geol.rud.mestorozh.  
no.3:133-134 My-Je '62. (MIRA 15:6)  
(Rakovskii, Sergei Dmitrievich, 1899-1962)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0

ZELENTSKAYA, I.S., kand.tekhn.nauk; TSURKAN, I.G., kand.tekhn.nauk;  
TSAREGRADSKIY, V.A., kand.tekhn.nauk; ABRAMOV, V.V., inzh.;  
TOROFCHINOV, A.N., inzh.

Results of field and laboratory tests of the Volgograd lubricating  
oil. Trudy TSNII MPS no.262:117-135 '63. (MIRA 16:10)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0"

L 10407-66 EWT(m)/EWP(w)/EWP(j)/T/EWP(t)/EWP(b) JD/WB/DJ/WE/RM  
ACC NR: AM5022503 Monograph

UR/

Kolotukhin, Ivan Nikiforovich; Kuznetsov, Vasiliy Georgiyevich; Kazarnovskiy,  
Semen Naumovich; Tsaregradskiy, Vladimir Alekseyevich

Lubricating and protective materials (Smazochnyye i zashchitnyye materialy)  
3d ed., rev. and enl. Moscow, Izd-vo "Transport," 1965. 171 p. illus.,  
biblio., 8000 copies printed.

TOPIC TAGS: lubricant, lubricant component, lubricant property, lubricating oil,  
grease, lubrication, paint, lacquer, detergent, railway rolling stock,  
protective coating, corrosion protection

PURPOSE AND COVERAGE: This monograph presents the basic properties, test and  
preparative methods, and also applications for lubricant and protective  
paints and lacquers required in the railroad industry. Compared with the  
second edition, this edition provides additional information on synthetic  
oils/greases, new synthetic polymeric paints and lacquers, and also detergents  
and polishing compositions. The monograph was approved by the State Admin-  
istration for Educational Institutions of the Ministry of Transport as a  
textbook for rail transport technical schools and can be used by a wide range  
of workers who are connected with painting and lubrication of rolling stock.

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UDC: 625.23/.24002.4:[621.892+66]

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ACC NR: AM5022503

2

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Ch. II. Products for preparing lubricants -- 18

Ch. III. Lubricants used in rail transport -- 37

Ch. IV. Testing of lubricants -- 61

Ch. V. Protective materials, general -- 80

Ch. VI. Raw materials and intermediates for paints and lacquers -- 98

Ch. VII. Paints, lacquers and coatings -- 123

Ch. VIII. Testing paints and lacquers -- 153

Ch. IX. Simple methods for protecting surfaces from corrosion -- 161

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10

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ACC NR: AM5022503

SUB CODE: FP, MT / SUBM DATE: 25Mar65 / ORIG REF: 033

6C  
Card 3/3

L 40121-15  
ACC NR: AT6028379

SOURCE CODE: UR/0000/65/000/000/0142/0154 /S

AUTHOR: Bachin, A. P.; Bekzhanov, G. R.; Brodovoy, V. V.; Gol'dshmidt, V. I.; Zhivoderov, A. B.; Zlavdinov, L. Z.; Ivanov, O. D.; Klenchin, I. N.; Kolmogorov, Yu. A.; Kotlyarov, V. M.; Kuz'min, Yu. I.; Kuminova, M. V.; Kunin, N. Ya.; Lyubetskiy, V. G.; Melent'yev, M. I.; Morezov, M. D.; Trat'yakov, V. G.; Tychkova, T. V.; Tsaregradskiy, V. A.; Eydlin, R. A.

ORG: none

TITLE: Geophysical sketch map of Kazakhstan

SOURCE: International Geological Congress. 22d, New Delhi, 1964, Geologicheskiye rezul'taty prikladnoy geofiziki (Geological results of applied geophysics); doklady sovetskikh geologov, problema 2. Moscow, Izd-vo Nedra, 1965, 142-154

TOPIC TAGS: ~~geophysical~~, map, ~~economic mapping~~, tectonics, ~~regional study~~

ABSTRACT: On the basis of regional geophysical and geological investigations (seismic, gravimetric, magnetoelectric), a composite geophysical sketch map of the physical fields of Kazakhstan has been compiled. From this map, the major tectonic zones, deep structures, and geological structural zones are defined. Long zones representing high field gradients in the gravitational and magnetic fields reflect deep geosutures, which seismic sounding data suggest are scarps in the M-discontinuity.

Card 1/2

L 411-6

ACC NR: AT6028379

Among the major structural zones of Kazakhstan defined are: 1) the Turgayskaya, 2) the Petropavlovskaya, 3) the Uspenskaya, 4) the Tokrauskaya, and 5) the Dzhalaire-Naymanskaya. Regions of magmatism are also defined. In the tectonic depression zones, contour lines indicate the thickness of the sedimentary cover, overlying the folded basement, and possible oil-bearing formations. Orig. art. has: 1 figure. [DM]

SUB CODE: 08/ SUBM DATE: 06Jan65/ ATD PRESS: 5063

Curd 2/2/1

ACC NM: AAR-1606

REF ID: A65011/03/007/011/0026/0025

AUTHOR: Morozov, M. D.; Brodovoy, V. V.; Srednyakov, N. ...; Zografichiy, V. A.

TITLE: Geophysical research in Kazakhstan and its main results

SOURCE: Ref. zh. Geofizika, Abs. 12098

REF SOURCE: Sb. Vopr. geol. Kazakhstana. Alma-Ata, Nauka, 1964, 196-219

TOPIC TAGS: geophysics, seismic prospecting, gravimetric prospecting, oil prospecting,  
EARTH CRUST

ABSTRACT: Geophysical methods were started in Kazakhstan in 1925, and are now indispensable in all stages of geological research. In 1964 there were in Kazakhstan 110 seismic prospecting, 90 gravimetric, 210 electro-recon, 3 aeromagnetic, 100 ground level magnetic and 150 metal detector teams. The paper discusses geophysical work on the regional earth crust structure in depth, oil prospecting and preparations for oil drilling, search for useful minerals and geological mapping. The work is illustrated by a schematic geophysical map of Kazakhstan with examples of geophysical methods. Basic directions for further development are suggested. The need for a wider introduction of EDP in the evaluation and interpretation of geophysical data is argued and the importance of standard operational software adapted to definite types of geologic and geophysical conditions is noted. [Translation of abstract]

SUB CODE: 08

Card 1/1

USC: 550.830(574)

ACQ ID: AR6032152

SOURCE CODE: UR/0169/66/000/006/D013/D013

AUTHOR: Kotlyarov, A. M.; Kozik, A. L.; Tsaregradskiy, V. A.; Urazayev, B. M.; Koristoshevskaya, T. I.; Al'mukhanbetov, D. V.

TITLE: Geophysical investigation of unexplored areas of the Dzhezkazgan-Sarysuysk region

SOURCE: Ref. zh. Geofizika, Abs. 6D90

REF SOURCE: Sb. Geofiz. issled. v Kazakhstane. Alma-Ata, Kazakhstan, 1965, 120-126

TOPIC TAGS: petroleum geology, geologic exploration, oil, seismic logging, electric logging, geophysical exploration, oil deposits/Dzhezkazgan

ABSTRACT: Data obtained on the physical properties of rock in laboratory studies of samples and in electrical and seismic logging are presented. Geological and geophysical analyses showed that intense positive anomalies extending linearly along the meridional (up to 1000 'y) are formed by iron quartzites, porphyritoides, and epidote and amphibole shales of the Karsakpay series. The area distribution

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UDC: 550.830(574.5)

ACC NR: AR6032152

of the electrical properties of the rock had not been sufficiently studied. The study of the polarization characteristics of rock and ore was begun only in 1961. Residual magnetization was studied principally in extruded and metamorphic rock. Geophysical investigations showed a block structure for the Dzhezkazgan trough—the synclinal region situated to the north of the Dzhezkazgan deposits. Geophysical studies and drilling operations revealed a rather wide distribution of halogenic formations, whose age was determined roughly as Permian. Thick Lower Paleozoic strata and overlying rocks with oil-bearing characteristics, salt dome tectonics, indications of oil in the gaseous and liquid phase in the Permian cross-section, and favorable structure, all indicate that the Dzhezkazgan-Sarysuysk trough is an oil-bearing region. Yu. Kaznacheyeva. [Translation of abstract]  
[SP]

SUB CODE: 08/

Card 2/2

ACC NR: AR6024837

SOURCE CODE: UR/0169/66/000/004/0003/0034

AUTHOR: Beketanov, G. R.; Brodovoy, V. V.; Gol'dshmidt, V. I.; Zhivoderov, A. B.; Zlavidinov, L. Z.; Ivanov, O. D.; Klyuchkin, I. N.; Kolmogorov, Yu. A.; Bachin, A. P.; Kotlyarov, V. M.; Kuz'min, Yu. I.; Kuminova, M. V.; Kunin, N. Ya.; Lyubetskiy, V. G.; Melent'yev, M. I.; Morozov, M. D.; Tret'yakov, V. G.; Tychkova, T. V.; Tsaregradskiy, V. A.; Eydlin, R. A.

TITLE: A schematic geophysical map of Kazakhstan

SOURCE: Ref. zh. Geofizika, Abs. 4G17

REF SOURCE: Sb. Geol. razul'taty prikl. geofiz. Geofiz. issled. stroyeniya zemn. kory. M., Nedra, 1965, 142-154

TOPIC TAGS: geologic survey, geologic prospecting, map

ABSTRACT: Regional geophysical surveys are conducted in Kazakhstan to divide the territory into tectonic regions, to study its plutonic structure, and to solve some problems of geophysical mapping. The results of these surveys will make it possible to establish structural belts and regions in which minerals are likely to be found. The basic material will be obtained from investigations of the magnetic and gravitational fields in combination with seismic studies. In the magnetic and gravitational fields, tectonic and plutonic seams are isolated which correspond to terraces in the

Card 1/2

UDC: 550.311(574)

ACC NR: AR6024837

Kohorovicic discontinuity. Methods of regional geophysics are used to study the plutonic structure of a folded base, the structure and thickness of sedimentary sheaths, and to indicate prospective petroleum bearing uplifts. [Translation of abstract]  
M. Speranskiy

SUB CODE: 08

Card 2/2

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0

KOTLYAROV, A.M.; TSAREGRADSKIY, V.A.; KOLIK, A.L.

Development of halogenous formations in the Dzhezkazgan-Sarysu Basin  
and the outlook for its oil and gas bearing capacity. Vest. AN iazakh.  
SSR 21 no.6:53-59 Je '65. (MIRA 18:7)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920001-0"

SERDYUKOV, M.K.; TSAREGRADSKIY, V.A.; YAKUBOVSKIY, V.I.; YAKOSLAVTSEV, A.M.;  
PRITSKER, L.S.

Methods and results of prospecting for ore deposits in Kazakhstan  
using geophysical methods. Izv. AN Kazakh. SSR. Ser. geol. 21 no.  
4:74-83 Jl-Ag '64. (MIRA 17:11)

1. Kazakhskiy geofizicheskiy trest, Alma-Ata.

KOLOTUKHIN, Ivan Nikiforovich; KUZNETSOV, Vasiliy Georgiyevich;  
KAZARNOVSKIY, Semen Naumovich; TSAREGRADSKIY, Vladimir  
Alekseyevich; SARANTSEV, Yu.S., red.

[Lubricating and protective materials] Smazochnye i zashchit-  
nye materialy. Izd.3., perer. i dop. [By] I.N.Kolotukhin,  
1 dr. Moskva, Transport, 1965. 171 p. (MIRA 18:4)

TSAREGRADSKIZ, V. G., BENTKOVICH, G. S.

Using the Ural-1 electronic digital computer to process geo-  
physical data. Publ. nauch.-tekhn. inform. VIMI no.2 40-44. 1961.  
(MIRK 18.2)

1. Kazakhskiy geotekhnicheskiy trakt.

BEEZHANOV, G.R.; KOIMOGOROV, Yu.A.; TSAREGRADSKIY, V.A.

Relation of endogenous ore deposits in Kazakhstan to faults,  
intrusive activity, and crustal structure. Izv. AN Kazakh.SSR.  
Ser.geol. 22 no.5:3-17 S-0 '65.

1. Institut geologicheskikh nauk im. K.I.Satpayeva, Alma-Ata.  
(MIRA 18:12)

L 10128-63

EWT(1)/ES(w)-2/BDS--AFFTC/ASD/SSD--Pab-4--LJP(c)

ACCESSION NR: AP3000152

S/0141/63/006/002/0275/0289

AUTHOR: Tsaregradskiy, V. B.62  
58TITLE: Interaction between a molecular beam and an electromagnetic field in a resonator. 1 - Polarization of the molecular beam in a known nonuniform electric field of the resonator

71

SOURCE: Izvestiya vysshikh uchebnykh zavedeniy, radiofizika, v. 6, no. 2, 1963,  
275-289

TOPIC TAGS: molecular beam, molecular-beam polarization

ABSTRACT: A mathematical investigation of the interaction is limited to the case of a sinusoidal variation of the electric-field vector along a monokinetic molecular beam. Approximate formulae are developed for the amplitudes of the probability of distribution of molecules over the levels and for the beam polarization. A rigorous solution for the case, when the field frequency is equal to the frequency of molecular-level transition, coincides with the solution obtained by G. P. Lyubimov and R. V. Khokhlov (ZhETF, 33, 1396, 1957). The beam-polarization formula is analyzed for various problem parameters. "In

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ACCESSION NR: AP3000152

conclusion I am using the opportunity to thank V. S. Troitskiy for reading  
the manuscript of this paper and for his comments; and also V. M. Fain and  
E. Yashchin for discussing the results." Orig. art. has: 85 equations.

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ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet (Gor'kiy State  
University)

SUBMITTED: 23Dec61 DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: PH

NR REF SOV: 005

OTHER: 002

Card 2/2  
llm/H

TROITSKIY, V. S., TSAREGRADSKIY, V. B. (NIRFI, Gor'kiy)

"The Sensitivity of Amplifiers Working on a Beam of Excited Molecules".

The authors showed that the influence of thermal network noise on the receiver sensitivity may be changed by parameters subject to selection, but the spontaneous molecule radiation noise increases in this case. At room temperature and optimum parameters, the interior noise of such an amplifier will amount to about 80 Kelvin.

report presented at the All-Union Conference on Statistical Radio Physics, Gor'kiy, 13-18 October 1958. (Izv. vyssh uchev zaved-Radiotekh., vol. 2, No. 1, pp 121-127) COMPLETE card under SIFOROV, V.I.)

06493  
SOV/141-58-4-9/26

AUTHORS: Suchkin, G.L. and Tsaregradskiy, V.B.

TITLE: The Problem of Measurement of the Absorption of a Medium by its Thermal Electromagnetic Radiation in a Waveguide (K voprosu ob izmerenii pogloschcheniya sredy po yeye teplovomu elektromagnitnomu izlucheniyu v volnovode)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1958, Nr 4, pp 90-94 (USSR)

ABSTRACT: The system considered is in the form of an infinite waveguide with ideally conductive walls. A section  $1>z>0$  of the waveguide is filled with an absorptive medium. The regions outside the absorptive medium are denoted by  $L_1^-$ ,  $L_1^+$ , while the region inside the medium is  $L_2$ . The spectral intensity of the radiation of a non-matched radiator is expressed by the Kirchhoff Law:

$$P_\omega = \frac{\Theta}{2\pi} \sum_n A_n \quad (1)$$

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The Problem of Measurement of the Absorption of a Medium by its  
Thermal Electromagnetic Radiation in a Waveguide

where  $\theta$  is the energy temperature of the system and  $A_n$  is the energy absorption coefficient for a wave with an index n. The complex coefficients of reflection p and transmission d for the boundary of  $L_2$  in the waveguide can be expressed by Eq (2) where  $h_2$  is the propagation constant of the n-th eigenwave in  $L_2$ ,  $\alpha$  is the attenuation coefficient and  $r_{12}$  is the reflection coefficient for the semi-infinite medium in the waveguide (Ref 5). From Eq (2) the energy absorption coefficient can be expressed by Eq (3) so that the attenuation coefficient is given by Eq (4). If  $R = |p|^2$  and  $K = |d|^2$ , the relationship between K and R can be expressed by Eq (5), from which it follows that the attenuation coefficient is given by Eq (6). This relationship can be used to determine  $\alpha$  by means of experimental measurements. For this purpose, the investigated sample is placed in a waveguide whose one end is connected to a microwatt-meter, while the other end is terminated with a matched load at a temperature  $T^o = 0$ . The quantity R can be

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The Problem of Measurement of the Absorption of a Medium by its  
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determined by the usual method by means of a measuring line. If the system fulfills the condition expressed by Eq (7) and if the reflection coefficient  $r_{12} \ll 1$ , the attenuation coefficient can be approximately expressed by:

$$\alpha = \frac{1}{2\ell} \ln \frac{1}{1 - A} \quad (9)$$

In this case  $\alpha$  can be determined if  $\ell$ ,  $P_0$  and  $T^0$  are known. The author makes acknowledgment to V.S.Troitskiy for suggesting and discussing the problem. There are 7 Soviet references, one of which is translated from English.

ASSOCIATION: Issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Radiophysics Research Institute of the Gor'kiy University)

SUBMITTED: 18th February 1958

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9,2574 (155,1163)

30761  
S/141/61/004/003/012/020  
E192/E382

AUTHORS: Troitskiy, V.S. and Tsaregradskiy, V.B.

TITLE: Noise in a two-level excited medium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika,  
v. 4, no. 3, 1961, 508 ~ 514

TEXT: A maser based on a dielectric which is in the form of an excited medium can be represented by means of an inductance and a capacitance with the excited medium. It is important to determine the spectral density of the noise generated in the active medium in the equivalent capacitance. This has been done by several authors (Ref. 1 - M.W. Muller, Phys. Rev., 106, 8, 1957; Ref. 2 - R.V. Pound, Ann. Phys., 1, 24, 1957) but it appears that an exact derivation of the Callen-Welton formula for a stationary excited medium would be highly desirable; in particular, it would be important to determine the limits of applicability of the formula for evaluating the noise in masers. It is assumed that the external force acting on the system is:

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Noise in a ....

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$$V = V_o \sin(\omega t) = \frac{1}{2} [\tilde{V}_o e^{-i\omega t} + \tilde{V}_o^* e^{i\omega t}]; \quad \tilde{V}_o = iV_o .$$

Further, the system is assumed to consist of  $N_+$  molecules at the upper level and  $N_-$  molecules at the lower level. The distances between the molecules in the system is such that there is no correlation during radiation or absorption of the individual molecules; in other words, their radiation is non-coherent. The Schrödinger equation for the wave function  $\Psi$  can be written as:

$$im \frac{\partial \Psi}{\partial t} = \hat{H}_0 \Psi + V_o \sin(\omega t) \hat{Q} \Psi \quad (1)$$

where  $\hat{H}_0$  is the non-perturbed Hamiltonian of the system,  $V_Q$  is the perturbation Hamiltonian and  $\hat{Q}$  is the characteristic operator of the medium.

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In the absence of perturbation, the eigen values  $E_n$  of the energy of the system are:

$$H_{0n} = E_n \Psi_n.$$

In cases of practical interest, the energy levels  $E_n$  of the system have a fully determined width. The average power absorbed by the system can be represented by:

$$P(\omega) = \frac{\pi \hbar \omega V_0^2}{2\Delta} \int_{E_{n+}} f(E_{n+}) \rho(E_{n+}) \{ |\langle E_{n+} + \hbar\omega | \hat{Q} | E_{n+} \rangle|^2 \rho(E_{n+} + \hbar\omega) -$$
(4)

$$- |\langle E_{n+} - \hbar\omega | \hat{Q} | E_{n+} \rangle|^2 \rho(E_{n+} - \hbar\omega) \} dE_{n+}$$

where  $\rho(E_{n+})$  is the density of the initial states  $E_{n+}$ . Since

$$C_-/N_+ = C_+/N_- \quad (6),$$

the average power can be expressed by:

$$P(\omega) = \hbar \omega C_+ (1 - N_+/N_-) \quad (7)$$

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Noise in a two-level ....

where  $C_+$  and  $C_-$  are defined by:

$$C_+ = \frac{\pi V_0^2}{2\hbar} \int_{E_{ns}} f(E_{ns}) \rho(E_{ns}) |\langle E_{ns} + \hbar\omega | \hat{Q} | E_{ns} \rangle|^2 \rho(E_{ns} + \hbar\omega) dE_{ns}; \quad (5)$$

$$C_- = \frac{\pi V_0^2}{2\hbar} \int_{E_{ns}} f(E_{ns}) \rho(E_{ns}) |\langle E_{ns} - \hbar\omega | \hat{Q} | E_{ns} \rangle|^2 \rho(E_{ns} - \hbar\omega) dE_{ns}.$$

On the other hand, the power absorbed from the field can be expressed by the response of the system to the perturbing signal. The presence of the perturbation modifies the operator  $\hat{Q}$  in the following manner:

$$\hat{Q} = \frac{1}{2} (\alpha \tilde{V}_0 e^{-j\omega t} + \alpha^* \tilde{V}_0^* e^{j\omega t}) \quad (8)$$

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where  $\alpha = \alpha' - i\alpha''$ , which is a coefficient characterising the system. The change of the internal energy  $U$  of the system can now be expressed in terms of  $\alpha$ , so that:

$$\begin{aligned} \alpha''(\omega) &= \text{Tr} \left( 1 - \frac{N_+}{N_-} \right) \int_{E_{n\alpha}} f(E_{n\alpha}) e^{i\omega(E_{n\alpha})} | \langle E_{n\alpha} + \\ &+ i\omega | \hat{Q} | E_{n\alpha} \rangle |^2 \rho(E_{n\alpha} + i\omega) dE_{n\alpha} \end{aligned} \quad (10)$$

While the average value of the operator  $\hat{Q}$  is zero, its mean square value is not equal to zero even in the absence of the external signal. It is shown that the mean square value of  $\hat{Q}$  is given by:

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$$\overline{Q^2} = \int_{-\infty}^{\infty} \frac{\pi}{\pi} \left[ \frac{1 + \frac{N_+}{N_-}}{1 - \frac{N_+}{N_-}} \right] \alpha''(\omega) d\omega \quad (14)$$

This can also be expressed by:

$$\overline{Q^2}(\omega) = \frac{2\alpha''(\omega)}{\pi\omega} \Theta(\omega - \Omega_{\pm}) \quad (16)$$

where:

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$$\Theta(\omega, T_{\text{eff}}) = \frac{\hbar\omega}{2} + \frac{\hbar\omega}{e^{-\hbar\omega/kT_{\text{eff}}} - 1},$$

in which  $T_{\text{eff}}$  is the effective temperature, as defined by:

$$N_+/N_- = e^{-\hbar\omega/kT_{\text{eff}}} \quad (15).$$

It is seen from the above that for a medium in thermal equilibrium  $T_{\text{eff}}$  is equal to its real temperature and Eq. (16) is then identical with the Callen-Welton formula. Further, the fluctuation-dissipation theorem of Callen and Welton is valid also for non-coherent fluctuations for any distribution of  $N_+$  and  $N_-$ . The formulae are used to determine the noise spectral density in a beam-type molecular amplifier. The resonator of the amplifier is represented by a resonant circuit, whose capacitance in the absence of the dielectric is  $C_0$  and Card 7/8

Noise in a two-level ....

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where the dielectric has a permittivity  $\epsilon = \epsilon' - i\epsilon''$ . It is shown that the spectral density of the noise is expressed by:

$$\overline{E^2}(\omega) = \frac{2}{\pi} \frac{\epsilon''(\omega)}{\omega c_0 |\epsilon|^2} \Theta(\omega, T_{\text{300}}) \quad (19).$$

There are 1 figure and 20 references: 12 non-Soviet-bloc and 8 Soviet-bloc (one of the Soviet references is translated from English). The four latest English-language references mentioned are: Ref. 1 - Phys. Rev., 106, 8, 1957; Ref. 3 - J.P. Gordon, L.D. White, Proc. IRE, 46, 1588, 1958; Ref. 5 - J.C. Helmer, M.W. Muller, IRE Trans., M.T.T.-6, 210, 1958. Ref. 4 - M.L. Stich - J. Appl. Phys., 29, 782, 1958.

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Scientific Research Radiophysics Institute of Gor'kiy University)

SUBMITTED: November 12, 1960

Card 8/8

TSAREGRADSKIY, V.B.

Interaction of a molecular beam with an electromagnetic field  
in a resonator. Part 1; Molecular beam polarization in given  
nonuniform electric field of a resonator. Izv. vys. ucheb.  
zav.; radiofiz. 6 no.2:275-289 '63. (MIRA 16:6)

1. Gor'kovskiy gosudarstvennyy universitet.  
(Electromagnetic fields)  
(Microwaves)  
(Polarization(Electricity))

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L 6456-66 EWT(1)/EWT(m)/EPF(c)/EWP(j)/T/ETC(m)  
ACCESSION NR: AP5019856 IJP(c)/RPL DS/WH/RM  
UR/0181/65/007/008/2397/2399

AUTHOR: Sorin, Ye. L.; Tsaregradskiy, V. B.

TITLE: On the causes of extinction of EPR signal and luminescence quenching of photoexcited molecules of naphthalene in polymethylmethacrylate

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2397-2399

TOPIC TAGS: luminescence quenching, EPR spectrum, naphthalene, aromatic hydrocarbon, UV absorption, optic transmission

ABSTRACT: The purpose of the investigation was to explain the time extinction of EPR signals observed by A. K. Piskunov et al. (Izv. AN SSSR ser. fiz. v. XXVII, 634, 1963) in investigations of the triplet states of some aromatic molecules. The present experiment was carried out with the RE-1301 radio spectrometer using polymethylmethacrylate (PMMA) samples obtained by photo- and thermo-polymerization. The naphthalene concentration was 0.1--1 wt.%. The liquid-nitrogen temperature tests were made with a quartz thermostat and a cold finger in which the sample was placed. Partial time extinction of the EPR signal from the photoexcited naphthalene was observed at 77K for all samples with a similar result for the phosphorescence quenching of the naphthalene. Examination of the dependence of the radical concentration

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ACCESSION NR: AP5019856

and triplet-level population on the irradiation time, and the dependence of the transmission on the wavelength at different irradiation times indicates that the EPR signal reduction and phosphorescence quenching are due to an increase in the absorption of the irradiated matrix in the ultraviolet region. During the photo-destruction of the PMMA there are formed optically active products which absorb the UV component of the radiation. These products are double conjugate carbon-carbon bonds. The experiment shows that the PMMA radicals themselves have no noticeable UV absorption. Orig. art. has: 3 figures and 1 formula.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet (Gor'kiy State University)

SUBMITTED: 01Mar65

ENCL: 00

SUB CODE: SS, OP

NR REF Sov: C03

OTHER: 001

nw

Card 2/2

L 6353-66 EWT(1)/ ENA(h) IJP(c) GG

ACC NR: AP5020362

SOURCE CODE: UR/0141/65/008/003/0504/0512

AUTHOR: Tsaregradskiy, V. B.

ORG: Gor'kovskiy State University (Gor'kovskiy gosudarstvennyy universitet)

TITLE: The interaction of a molecular beam with the electromagnetic field of a resonator

SOURCE: IVUZ. Radiofizika, v. 8, no. 3, 1965, 504-512

TOPIC TAGS: nonhomogeneous magnetic field, molecular generator, molecular beam, backward wave oscillator

ABSTRACT: The polarization of a monokinetic molecular beam is given as an expansion in terms of the field  $E(r, t)$ . As an example, the results are used to analyze stationary oscillations in a molecular generator with a nonhomogeneous field. The analysis of the sinusoidal distribution of the field along the axis of the resonator shows that under certain conditions two types of oscillations are possible in the system. The transition between these oscillations is discontinuous. From the physical standpoint, this phenomenon is associated with the Doppler effect, whereby the

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UDC: 621.378.33

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